

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT: Cupp, Mary S.
Ribeiro, Jose M.C.
Cupp, Eddie W.
Swaim, Steven F.

(ii) TITLE OF INVENTION: RECOMBINANT VASOACTIVE PROTEIN FROM
SALIVARY GLAND OF THE BLACK FLY

(iii) NUMBER OF SEQUENCES: 5

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: W. Murray Spruill (Alston & Bird, LLP)
(B) STREET: 3605 Glenwood Ave. Suite 310
(C) CITY: Raleigh
(D) STATE: NC
(E) COUNTRY: USA
(F) ZIP: 27622

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER:
(B) FILING DATE:
(C) CLASSIFICATION:

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: Spruill, W. Murray
(B) REGISTRATION NUMBER: 32,943
(C) REFERENCE/DOCKET NUMBER: 5721-4A

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: 919 420 2202
(B) TELEFAX: 919 881 3175

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 548 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

(A) NAME/KEY: CDS

(B) LOCATION: 49..507

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

| | |
|---|-----|
| CTGAAGTGTA AAGTACTTAA ATCATTTCGGT GGGAATTATC CAGCAAGT ATG AGC ATC | 57 |
| Met Ser Ile | |
| 1 | |
| ACA CAA AGC TTC TTT GTT TTA ACC CTT GCC ATA TTT GGT GCT GCA TCA | 105 |
| Thr Gln Ser Phe Phe Val Leu Thr Leu Ala Ile Phe Gly Ala Ala Ser | |
| 5 10 15 | |
| GAC AAC CCA ATT GCT GAT AGA AAA TGT ATC GTC ATC AGT GAC GGG GAC | 153 |
| Asp Asn Pro Ile Ala Asp Arg Lys Cys Ile Val Ile Ser Asp Gly Asp | |
| 20 25 30 35 | |
| CTG GTT ATG CAC GAG CGA AAA CCC GGT CAA GAG TTC CCA TAC TAT GTC | 201 |
| Leu Val Met His Glu Arg Lys Pro Gly Gln Glu Phe Pro Tyr Tyr Val | |
| 40 45 50 | |
| TAC ATG ATC CCG AAG GGT ACA GAG TAC GAC GAT CAA CGA TGG ATC CTG | 249 |
| Tyr Met Ile Pro Lys Gly Thr Glu Tyr Asp Asp Gln Arg Trp Ile Leu | |
| 55 60 65 | |
| GAG AGT GTG GGA GGA GAT CAC TAT AAG CTG AAG AAC AAG TTT TCC GGA | 297 |
| Glu Ser Val Gly Gly Asp His Tyr Lys Leu Lys Asn Lys Phe Ser Gly | |
| 70 75 80 | |
| CGG TAT TTG GTG TAT GGC ACC TTT GAT TAT TTC CTC ACG GCA GGA GCA | 345 |
| Arg Tyr Leu Val Tyr Gly Thr Phe Asp Tyr Phe Leu Thr Ala Gly Ala | |
| 85 90 95 | |
| GCC GTC AGA GAG ATG GAT CAT TTC AAA TTC ACT GCT GAT GGG ACG GGC | 393 |
| Ala Val Arg Glu Met Asp His Phe Lys Phe Thr Ala Asp Gly Thr Gly | |
| 100 105 110 115 | |
| AAG TAT GAC ATC TCT AGC AAA GCG AAT GGT CAT CCT CGA TCT CGC GGC | 441 |
| Lys Tyr Asp Ile Ser Ser Lys Ala Asn Gly His Pro Arg Ser Arg Gly | |
| 120 125 130 | |
| AAA AAT TGG GGA GTC ATG AAA GAT GGT GAG AAG CAC TAT TTC ACT GTT | 489 |
| Lys Asn Trp Gly Val Met Lys Asp Gly Glu Lys His Tyr Phe Thr Val | |
| 135 140 145 | |
| GAA AAT TGT CAG GAA TAA TAAATAAGAA ATGTTGAAGT TGAAAAAAAAA | 537 |
| Glu Asn Cys Gln Glu * | |
| 150 | |
| AAAAAAAAAA A | 548 |

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 153 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Met | Ser | Ile | Thr | Gln | Ser | Phe | Phe | Val | Leu | Thr | Leu | Ala | Ile | Phe | Gly | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Ala | Ala | Ser | Asp | Asn | Pro | Ile | Ala | Asp | Arg | Lys | Cys | Ile | Val | Ile | Ser | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Asp | Gly | Asp | Leu | Val | Met | His | Glu | Arg | Lys | Pro | Gly | Gln | Glu | Phe | Pro | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Tyr | Tyr | Val | Tyr | Met | Ile | Pro | Lys | Gly | Thr | Glu | Tyr | Asp | Asp | Gln | Arg | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Trp | Ile | Leu | Glu | Ser | Val | Gly | Gly | Asp | His | Tyr | Lys | Leu | Lys | Asn | Lys | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Phe | Ser | Gly | Arg | Tyr | Leu | Val | Tyr | Gly | Thr | Phe | Asp | Tyr | Phe | Leu | Thr | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Ala | Gly | Ala | Ala | Val | Arg | Glu | Met | Asp | His | Phe | Lys | Phe | Thr | Ala | Asp | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Gly | Thr | Gly | Lys | Tyr | Asp | Ile | Ser | Ser | Lys | Ala | Asn | Gly | His | Pro | Arg | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Ser | Arg | Gly | Lys | Asn | Trp | Gly | Val | Met | Lys | Asp | Gly | Glu | Lys | His | Tyr | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Phe | Thr | Val | Glu | Asn | Cys | Gln | Glu | * | | | | | | | | |
| 145 | | | | | 150 | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 22 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Gly Lys Asn Trp Gly Val Met Lys Asp Gly Glu Lys His Tyr Phe Thr
 1 5 10 15

Val Glu Asn Cys Gln Glu
 20

(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Lys Pro Gly Gln Glu Phe Pro Tyr Tyr Val Tyr Met Ile Pro Lys
 1 5 10 15

(2) INFORMATION FOR SEQ ID NO:5:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 109 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Lys Pro Gly Gln Glu Phe Pro Tyr Tyr Val Tyr Met Ile Pro Lys Gly
 1 5 10 15

Thr Glu Tyr Asp Asp Gln Arg Trp Ile Leu Glu Ser Val Gly Gly Asp
 20 25 30

His Tyr Lys Leu Lys Asn Lys Phe Ser Gly Arg Tyr Leu Val Tyr Gly
 35 40 45

Thr Phe Asp Tyr Phe Leu Thr Ala Gly Ala Ala Val Arg Glu Met Asp
 50 55 60

His Phe Lys Phe Thr Ala Asp Gly Thr Gly Lys Tyr Asp Ile Ser Ser
 65 70 75 80

Lys Ala Asn Gly His Pro Arg Ser Arg Gly Lys Asn Trp Gly Val Met

85 90 95
Lys Asp Gly Glu Lys His Tyr Phe Thr Val Glu Asn Cys
100 105